# Comments on California Energy Commission's Draft DG Strategic Plan

May 22, 2002

Sacramento, CA

Stephen R. Torres

Vice-President, Western Region

Distributed Energy Generation

FuelCell Energy

# Vision, Mission and Principles

- "Not all DG was created equally"[1]
  - Array of NEW, ULTRA-CLEAN generation and storage technologies commercial or nearly commercially available now
  - New technologies face high cost/low volume issues early-on in their commercialization life-cycle
  - Investment must be targeted at bridging the initial cost/volume challenges faced by these developers
- Must be able to "monetize" environmental impact of new technologies
  - "A DFC300 FuelCell Energy power plant displaces CO2 emissions of average natural gas-fired power plant equivalent to over 100 cars driving 12,000 miles per year."[2]

• M. Shames, UCAN
2. R. Redlinger, CMS Energy Viron Energy Services

# Deployment Issues and Opportunities

- "Interconnection Issues"
  - Technical requirements will be resolved
    - Rule book still being developed (IEEE, Rule 21, UL1741)
    - Radial systems first
  - Standardization (time and cost) is a requirement for a healthy DG market in CA
- "Market Integration and Regulatory Issues"
  - State values resource diversity, independence, security and environmental benefits of ultra-clean DG
  - Incentives as a "bridge" that allows new ultra-clean technologies to achieve cost competitiveness
  - Utilities should not be negatively impacted by DG growth, but rather be able to participate through sensible rate structure

# Deployment Issues and Opportunities (continued)

- "Market Integration and Regulatory Issues" (continued)
  - Current Incentive Programs too Large and/or Generous
    - CPUC's Self-Gen Program and CEC's Emerging Renewable program if fully subscribed will only fund around 60MW of new installed DG capacity per year through 2004
      - Incentives cover renewable, fuel-cells and conventional CHP technologies, resulting in limited amount of installed capacity (less than 6MW per year) available to each manufacturer
    - Generous levels of incentives in the Self-Gen program for fuel cells (Level 2) should have resulted in a flurry of applications and broad deployment of fuel cells in CA in the past 2 years
      - Funds allocated to Level 2 incentives have been consistently under-subscribed across all utility service areas, suggesting that incentive levels currently in place may not be generous enough

# Strategy Options and Goals for the Energy Commission

- Shift funding emphasis from R&D to deployment in the next 5 years
  - Significant technology development has occurred in the last 10 years, funded through DOE, PIER and equity markets
    - Will additional investment from the state lead to radically new solutions?
  - Deployment is clearly THE CHALLNEGE facing new emerging DG technologies – that is where the investment should go
    - CEC's own assessment of DG technologies show ample choice among commercial or near commercial ultra-clean technologies
    - Deployment can result in additional manufacturing infrastructure investment and significant job creation in the state

# Near Term Goals

- "#4: Institutional and Regulatory Issues"
  - Reconcile need for incentives for deploying new, ultra-clean technologies in the short term with disincentives being debated by other agencies
    - Window of time needed to achieve broad deployment
- "#5: Minimize Conflicts Between Utilities and DG…"
  - Allow utilities to participate in DG market through revised rate structure and/or ownership
    - DG Grid support market closed until utilities can capitalize on the benefits of owning DG vs. other assets
- #7: "Establish DG State Agency Coordination Group…"
  - Ensure alignment of policies and initiatives that maximizes state investment in new, ultra-clean technologies
  - Facilitate aggregation State Agencies' energy needs to create a significant volume purchase opportunity

# Near Term Goals (continued)

- #9: Reduce distributed generation equipment costs…"
  - Array of NEW, ULTRA-CLEAN technologies need this type of support TODAY
  - Available funds and current cash burn don't support delaying deployment 5 years for many of these new technologies
    - Need to "create a market" in the next 12-24 months
  - This goal should be short term rather than medium term

# Economic Development Impact of DG in CA

- CA well positioned to lead DG industry in the US
  - Photovoltaic
  - MicroTurbines
- Potential of attracting significant additional job content
  - FuelCell Energy Commitment to CPA in RFB process
- Key decision making criteria will be a clear path to significant volume of sales in CA
  - Demand aggregation best alternative short term
  - Could support export manufacturing to Asia-Pacific